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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,327	12/02/2003	Katsura Ito	Q78609	2696

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EXAMINER

NGUYEN, CAM N

ART UNIT PAPER NUMBER

1734

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/725,327

Applicant(s)

ITO ET AL.

Examiner

Cam N Nguyen

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- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -  
Period for Reply

## A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on December 02, 2003 (e divisional of 09/839, 4/8)
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-546)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/IS/06)
- Paper No(s)/Mail Date 4/27/04

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 16 is objected to because of the following informalities:

In line 2, "particle" should be -particles-.

Appropriate correction is required.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7, 10, 12-16, & 18-19 of U.S. Patent No. 6,683,023 B2 (hereinafter Pat '023). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

The difference between the instant claims and the claims of Pat '023, is that the instant claim 1 recites the additional limitation "and wherein the titanium dioxide fine particles are obtained by a vapor phase reaction of a wet-hydrolyzing". However, it is considered that this additional limitation is a product-by-process limitation, which has no bearing on the patentability of the claimed photocatalytic powder. See *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985); *In re Brown*, 173 USPQ 688, 688 (CCPA 1977); *In re Fessman* 180 USPQ 324, 326 (CCPA 1977). See also *MPEP* 2113. It is inherent that the claimed photocatalytic powder is the same the photocatalytic powder set forth in Pat '023 because the same photocatalytic powder is disclosed in both the instant claims and Pat '023.

With respect to claims 2 & 5, it is inherent that the photocatalytic powder of the Pat '023 would possess the same crystal form as the instantly claimed photocatalytic powder because both the instant claims and Pat '023 disclose the same photocatalytic powder.

#### ***Claim Rejections - 35 USC § 102(e)***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Taoda et al., "hereinafter Taoda", (US Pat. 6,090,736).

The applied reference has a common inventors (Ito and Hagihara) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Taoda discloses a photocatalytic powder for environment clarification, comprising finely divided titanium dioxide particles having a coating of porous calcium phosphate formed on at least part of the surface of each finely divided titanium dioxide particle, wherein an anionic surface active agent is present at least one the interface between said coating of porous calcium phosphate and the finely divided titanium dioxide particle (see col. 10, claim 1). The finely divided titanium dioxide particles have an average primary particle diameter of from about 0.001  $\mu\text{m}$  to about 0.2  $\mu\text{m}$  (see col. 10, claim 2). The finely divided titanium dioxide particles are in the form of a powder comprising primary dispersion particles produced by the gaseous phase reaction starting from a titanium halide (see col. 10, claim 3). The anionic surface active agent is disclosed at col. 4, in 27-41. An aqueous slurry used for dispersing the finely divided titanium dioxide particles therein contains an anionic surface active agent and titanium dioxide particles (see col. 10, claim 6). Taoda further discloses when the finely divided titanium

dioxide particle used supports onto the surface thereof a metal, such as platinum, rhodium, ruthenium, palladium, silver, copper, iron or zinc, the catalytic action of the metal further enhances the environmental clarification effect, such as decomposition-removal of organic compounds or killing of bacteria or molds (see col. 7, ln 10-15). The photocatalytic powder can be applied to a polymer shaped article, such as an organic fiber or a shaped plastic article, composed of an organic polymer. Suitable organic polymers including the claimed polymers (see col. 7, ln 16-32). Taoda further discloses a polymer composition comprising an organic polymer and about 0.01 to about 80% by weight, based on the weight of the polymer composition, of a photocatalytic powder for environmental clarification; said photocatalytic powder comprising finely divided titanium dioxide particles having a coating of porous calcium phosphate formed on at least part of the surface of each finely divided titanium dioxide particle, wherein an anionic surface active agent is present at least on the interface between said coating of porous calcium phosphate and the finely divided titanium dioxide particle (see col. 11- col. 12, claim 11).

Taoda discloses the claimed subject matter, thus anticipates the claims.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taoda et al., "hereinafter Taoda", (US Pat. 6,090,736), as applied to claims 1-18 above, and further in view of Suzuki et al., "hereinafter Suzuki", (US Pat. 5,965,479).

Taoda discloses a photocatalytic powder as described above, except for the activated carbon and/or zeolite.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated such known activated carbon into the organic polymer of Taoda to achieve an improved organic polymer having enhanced in removing efficiency of harmful substances, as evidenced by Suzuki (see Suzuki at col. 1, ln 19-24). Specifically, Suzuki fairly discloses an activated carbon consisting essentially of activated carbon particle and titanium dioxide fine particles having an average particle size of not more than 10  $\mu\text{m}$ , and containing a suitable binder, including thermosetting resins and the like (see Suzuki at col. 12, claim 1 & col. 8, ln 18-34).

#### **Citations**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogawa et al. (US Pat. 6,123,927), Hagihara et al. (US Pat. 6,383,980 B1), Maeda et al. (US Pat. 6,017,993), Hagihara et al. (US Pat. 6,407,156 B1), Taoda et al. (US Pat. 6,291,067 B1), Maeda et al. (US Pat. 6,107,390), Moden et al. (US Pat. 6,245,140 B1), Lawhome (US Pat. 4,944,936), Deller et al. (US Pat. 5,231,067), Deller

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et al. (US Pat. 5,366,938), Yao et al. (US Pat. 6,066,359), Komatsu et al. (US Pat. 6,265,341 B1) are cited for related art.

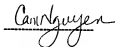
**Conclusion**

9. Claims 1-19 are originally pending. Claims 1-19 are rejected. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (571) 272-1357. The examiner can normally be reached on M-F from 9:30 am. to 6:00 pm.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to telephone number (571) 272-1700.



Cam Nguyen

Primary Examiner

Nguyen/cnn (CAN)

June 04, 2004

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